# SYSTEM TRAINING PLAN
## FOR
# COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE
## (C3I)

U.S. ARMY AIR DEFENSE ARTILLERY SCHOOL
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**SYSTEM TRAINING PLAN**
**(STRAP)**

**FOR THE**

**COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE**
**(C3I)**

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## 1. SYSTEM DESCRIPTION

### a. Narrative

The Forward Area Air Defense (FAAD) C3I system establishes interoperability with joint services, NATO, and High-to-Medium Altitude Air Defense (HIMAD) C2 systems to provide the current air situation to Short Range Air Defense (SHORAD) units, combined arms commanders, and Army Airspace Command and Control (A2C2) elements. It also alerts SHORAD weapons and combined arms weapons to hostile targets. FAAD C3I interfaces with other Army Tactical Command and Control System (ATCCS) Battlefield Functional Areas (BFAs) using message texts developed in the User Interface Requirements (UIRs). All FAADC3I system nodes are contained in shelters mounted on HMMWVs. The FAADC3I system is capable of receiving/passing radar pictures to individual fire units along with command and control instructions. FAADC3I node configurations include:

- **Air Battle Management Operations Center (ABMOC).** The ABMOC, co-located at the FAAD battalion Tactical Operations Center (TOC), monitors and controls tactical operations. It provides the FAAD Battalion Commander with the air picture, information processing and is the entry point for external intelligence systems and other sources. The ABMOC consists of the Engagement Operations (EO) workstation, Force Operations (FO) workstation (now known as the Air and Missile Defense Workstation (AMDWS)), Force XXI Battle Command Brigade and Below (FBCB2); communications equipment consisting of Joint Tactical Information Distribution System (JTIDS), Single Channel Ground and Airborne Radio System (SINCGARS) combat net radio (CNR), Enhanced Position Location and Reporting System (EPLRS), Mobile Subscriber Equipment (MSE), and Improved High Frequency Radio (IHFR) AN/GRC-213.

- **Army Airspace Command and Control (A2C2).** The A2C2 is the G3 Army Airspace Command and Control element for the division, and provides the G3 staff with the air picture, command and control information distribution, planning and execution functions. The A2C2 normally assumes the role of Identification (ID) Authority for track ID management. The ABMOC and A2C2 can assume each other's role in the continuous operations (CONOPS) configuration, as they are identically equipped. All computer hardware equipment is housed in the Standard Integrated Command Post System (SICPS) rigid wall shelter (RWS).

- **Sensor Command and Control Station (Sensor C2).** The Sensor C2 provides assistance in alerting of hostile/unknown aircraft, accepting and storing displays, generating and transmitting ADA information. The Sensor C2 is the interface for the Sentinel Sensor or Light and Special Divisions Interim Sensor (LSDIS) to distribute target information to the ABMOC and fire units.

- **Sensor Station.** The Sensor can be either the Sentinel in the heavy divisions or the LSDIS in the light divisions. The Sentinel Radar (AN/MPQ-64) functions as the primary sensor and consists of a trailer-based radar system with Identification Friend or Foe (IFF) and FAAD C2 interfaces. A 10KW generator mounted on the prime mover, a high-mobility multipurpose wheeled vehicle (HMMWV) provides the prime power. The Sensor provides surveillance coverage to detect, identify and track air threats over the division area of operations and extending beyond the forward edge of the battle area (FEBA).

- **Battery Command Post (BCP).** The BCP provides the capability to monitor and control the tactical operations of subordinate elements. It is the force operations link to the supported Brigade, and can provide the supported unit Commander real time AD situational information. The BCP, in conjunction with a Sensor C2 node performs CONOPS for both the ABMOC and A2C2. The BCP is fielded in a soft top shelter (STS), rigid wall shelter (RWS) or M1068 Track configuration (light or heavy divisions respectively).

- **Platoon Command Post (Plt CP)/Fire Unit Node.** The Simplified Hand-held Terminal Unit (SHTU) or the Hand-held Terminal Unit (HTU) (CHS 2), in conjunction with the EPLRS or SINCGARS, is used to perform subsystem functions, command and control, and display the air battle situation. The SHTU or HTU displays command and air track information that permits C2, alerting, prioritizing, and slew-to-cue functions at the fire unit level (Avenger, MANPADS, and Linebacker). The Plt CP also acts as a relay to fire units for battle management information.

**b. First Unit Equipped (FUE)**

| Event | Date | Status |
|---|---|---|
| Pre-production Sentinel sensor (5-Ton) | 3rd Qtr FY 95 | |
| Production Sentinel (HMMWV) | 3rd Qtr FY 97 | Ongoing |
| Production JTIDS | 4th Qtr FY 99 | Ongoing |
| CHS II | 2nd Qtr FY 98 | Ongoing |

## 2. TARGET AUDIENCE

A C3I institutional training base has been established to support the C3I system. It includes training for entry level ADA C3I TOC Enhanced Operators/Maintainer (14J), SHORAD company grade ADA officers, ADA warrant officers, and C3I maintenance personnel. SHORAD commissioned officers (14B) attend the SHORAD track (following a common core basic course) and the advanced course. Warrant officers (140A) attend a warrant officer basic course at the United States Army Air Defense Artillery School (USAADASCH). Maintenance personnel are trained by their supporting institutions. See Annex A for Target Audience Matrix. The following is a list of MOSs either supporting or impacted by the C3I system:

- 14B Air Defense Artillery SHORAD Officer
- 140A ADA TOC Technician
- 14J ADA C4I TOC Enhanced Operator/Maintainer
- 14R Bradley/Linebacker Crew Member
- 14S Avenger System Crew Member
- 14M MANPADS Crew Member
- 31U Unit Level Communications Maintainer
- 35M Sentinel Radar Repairer
- 35E Radio/COMSEC Repairer (DS/GS Level)
- 35J Computer/Automation System Repairer (DS/GS Level)

**NOTE:** For training concept,, strategy, and other information on 14R, 14S, and 14M refer to the Linebacker, Avenger, and Stinger STRAPs.

## 3. ASSUMPTIONS

- Department of the Army will provide the necessary resources, personnel, and equipment required to support the program of instruction (POI) for FAAD C3I.
- There will not be an increase in total Army force structure to support the manning of C3I.
- Training development resources, manpower, and equipment will be available to support the FAAD C3I over the life cycle of the system.
- FAAD C3I system associated Training Aids, Devices, Simulations, and Simulators (TADSS) will be developed and fielded with FAAD C3I systems.
- Contractor supported New Equipment Training (NET) will be provided for system hardware improvements and software upgrades.
- Required and future modifications to existing TADSS will be developed and fielded to all units with the FAAD C3I system.
- The Sentinel fielding will continue to the units containing personnel and equipment from the present FAAD C2I system.
- The 14J soldier is taught built-in-test/built-in-test-equipment (BIT/BITE) and the use of system diagnostics software in AIT for FAAD C3I subsystems and Sentinel sensor.
- MOS 35M will maintain the Sentinel system at the organizational (unit) level.

## 4. TRAINING CONSTRAINTS

- Training for the FAAD C3I system will be developed in accordance with TRADOC Regulation 350-70, Training Development Management, Processes, and Products, and within the framework of the materiel acquisition process (DOD 5000.2R).
- Personnel resources for FAAD C3I system training must come from Department of the Army (DA) resources. The training equipment, components, and devices must be provided in sufficient quantities and within the appropriate time frames to support operational testing and system fielding. Required resources defined in this System Training Plan (STRAP) will be funded and or provided by the Training and Doctrine Command (TRADOC) proponent schools/FAAD C3I system Project Office.
- Current training base equipment shortages impact on training quality and combat readiness. Tactical equipment shortages for C3I are addressed in paragraph 7b and TADSS shortages are addressed in Annex I.

## 5. TRAINING CONCEPT (AC/RC)

### a. New Equipment Training (NET) Concept

All training will be IAW AR 350-35, Army Modernization Training (AMT). AMT ensures an orderly transfer of knowledge on the operation and maintenance of equipment from the Materiel Developer

(MATDEV) or provider to the tester, trainer, supporter, and user. AMT includes New Equipment Training (NET), Doctrine and Tactics Training (DTT), and Sustainment Training (ST). AMT requirements are the responsibility of the MATDEV and will be coordinated with USAADASCH, as the Combat Developer (CBTDEV)/Training Developer (TNGDEV), and other supported schools. TRADOC, U.S. Army Communications and Electronics Command (CECOM), U.S. Army Materiel Command (AMC), the contractor, service schools, and the fielded units must participate in the development and training required to support C3I system deployment.

In the development of training, NET planners will consider institutional training, exportable training to include Interactive Multimedia Instruction (IMI) and other forms of Distance Learning (DL), Leader training, Key Personnel training, Organizational training, and Total Unit training. NET will be performed by the contractor for Individual Training and TRADOC will train Tactics, Techniques, and Procedures (TTP). For follow-on NET for major system modifications (such as CHS II upgrades), developers will consider train-the-trainer training, single-site training, contractor NET Teams (NETT), and, if effective and affordable, Army staffed NETT.

**b. Institutional Training Concept**

USAADASCH is the proponent for the MOS 14J (FAAD C3I operator) institutional training. The training concept builds on the existing FAAD C3I POI and prepares the air defense soldier to qualify as a skill level one 14J crew member through completion of Advanced Individual Training (AIT) at Fort Bliss, Texas. In order to ensure accurate, cost-effective training, the materiel developer must continue to provide and upgrade institutional TADSS as system modifications are made. The combination of institutional and unit training strategies as outlined in the 14J Soldier's Training Publication (STP) completes the training mix that is designed to prepare the 14J for each level of progression. After completion of AIT, NET, and unit sustainment training, the soldier is capable of performing respective skill level tasks to standard.

USAADASCH Officer's Basic, Captains Career Course and Warrant Officer Advanced Course (OBC/CCC/WOAC) include instruction on the FAAD C3I system and prepare Air Defense officers to perform as SHORAD leaders. All FAAD C3I associated training and training products prepare the ADA leader, soldier, and unit to execute early warning operations in the combined arms arena.

FAAD C3I impacts the training bases of the United States Field Artillery School (USAFASCH), United States Army Signal School (USASIGSCH), and the Ordnance Missile and Munitions Center and School (USAOMMCS). These proponents share responsibility for maintainer training. The training of direct and general support maintainers will consist of initial entry training at their respective institutions through the use of lesson materials, NET, TADSS, and IMI training support products provided by the material developer.

The C3I and Sentinel embedded training (ET) and training devices, dismounted tactical equipment, Communications and Common Hardware/Software Labs, Air Defense System Integrator (ADSI), Air and Missile Defense WorkStation (AMDWS), and Tactical Planner Work Station (TPW) Labs are the primary means used to train operators, maintainers, and crews to perform EO, FO, C3I integration, and organizational maintenance tasks at the institution. Tactical equipment with embedded training, Training Aids, Devices, Simulators, and Simulations (TADSS), and the training support packages (TSPs) are the principal sources for sustainment training.

**c. Unit Training Concept**

FAAD C3I training will consist of all three (3) mutually supporting pillars of the Combined Arms Training Strategy (CATS): Unit, Institution, and Self-Development training. The CATS provides direction on how the unit will train and identifies the best mix of training resources to actually accomplish the training. The strategy integrates Maneuver Exercises, unit TOC exercises and Soldier Training, into battle-focused training plans. It is not a rigid process that limits the leader but provides the leader with a menu of training

events and resources from which he can plan and manage training to ensure soldiers, crews, and units are qualified.

The training of soldiers, leaders, and units shall be tough, realistic, and intellectually and physically challenging. It excites, motivates, and develops competence and confidence and capitalizes on technology by using an array of TADSS that provide the best training efficiency (low cost) and training effectiveness (promotes learning). Actual system equipment will be used to validate the transfer of knowledge and expertise learned through the use of TADSS. Maneuver exercises, and other training resources can be found in the system training and doctrinal publications.

## 6. TRAINING STRATEGY (AC/RC)

### a. New Equipment Training (NET) Strategy

IAW AR 350-35, the MATDEV will work in conjunction with the TNGDEV to design and publish a new Equipment Training Plan (NETP) that encompasses the total training subsystem. The NETP is a living document and though the FAAD C3I system is considered fielded, the original NETP must be extended and updated or a new NETP established. USAADASCH will validate all courses, materials, and products developed. All FAAD C3I system equipment and the training subsystem with all its devices and products must be available for NET.

The training designed will constitute a complete training subsystem. It will include, but is not limited to, individual and collective task analysis; institutional and unit TADSS; Instructor & Key Personnel Training (I&KPT); formal, contractor NET on site for both system operators and maintainers; and an IMI Training Support Package (TSP). This training will be limited to FAAD C3I-peculiar (air defense specific, both operator and maintainer) instruction and designed as an exportable multimedia-training package, complete with a digitized POI, lesson plans, technical manuals, student and instructor guides, and a course management plan. The TSP will include self-paced "how to" tutorial modules covering all aspects of the system and a diagnostic test module that permits identification of soldier training proficiency by module. The TSP will be used during the course of NET and, in addition to other NET materials, will be left with the unit for future NET/Sustainment Training.

Specific NET courses of instruction will cover operations and maintenance. New training requirements, to include new or modified TADSS and TSP development, are limited to CHS II, FBCB2, and Sentinel specific air defense training. Prerequisite training and the system IMI TSP will be supported by and provided through the FAAD C3I Program Manager.

NET is planned for and will be monitored by USAADASCH, USAFASCH, USASIGSCH, and USAOMMCS incrementally by battery, for an entire battalion. In addition to NET, the following courses will be required:

- Instructor and Key Personnel (I&KP) Course. This course is designed to train TRADOC instructors, New Equipment Training Team (NETT) members, and other key personnel in the training base. Training will be scheduled to minimize disruption of existing training base activities and ensure that participants will be of training base personnel. The I&KP training package will be validated prior to the first presentation of I&KP training by USAADASCH, and will be based on trainer performance testing and testing of a representative sample of the target audience. Personnel having completed I&KP training shall be stabilized in the institution to ensure availability of qualified personnel to train soldiers to maintain the FAAD C3I system training base.

- Instructor and Key Personnel (I&KP) Support Maintenance Course. This course is designed to train USAFASCH instructors, MOS 35M, New Equipment Training Team (NETT) members, CASCOM training developers, and other key personnel in the training base. The I&KP training package will be

validated prior to the first presentation of I&KP training by USAOMMCS, and will be based on trainer performance testing and testing of a representative sample of the target audience. Personnel having completed the I&KP training shall be stabilized in the institution to ensure availability of qualified personnel to train soldiers to maintain the FAAD C3I system training base.

- Reserve Component training will be accomplished in accordance with the USAADASCH, USAFASCH, and USASIGSCH Reserve Component (RC) Training Strategies for their respective products.

**b. Individual Training Strategy (Warrior)**

Training is developed IAW TRADOC Regulation 350-70 and designed to be safe, battle focused, derived from wartime missions, and based on FAAD C3I/SHORAD doctrine. It will follow the Systems Approach to Training (SAT) process. The institutional training design is based upon the following criteria:

- Instruction is performance-oriented, emphasizes hands-on practical exercises, and prepares FAAD/SHORAD soldiers and units to achieve and sustain proficiency on individual and collective tasks. Standards are established per the Mission Essential Task List (METL), the Army Training and Evaluation Program (ARTEP), Mission Training Plan (MTP) and Drills, Soldier's Training Publication (STP), and Officer Foundation Standards (OFS).

- Training is designed to be sequential by steps/procedures and will progress through the skill levels. Institutional and unit training programs capitalize on TADSS technology through the use of the embedded trainers, dismounted equipment labs, tactical equipment, and other devices that support efficient and effective training.

USAADASCH, Fort Bliss, is the proponent for the 14J FAAD C3I operator institutional training and for commissioned and warrant officer advanced training. The Advanced Individual Training (AIT) design is based upon the training concept to prepare entry-level soldier to qualify as a skill level one (SL1) 14J. Listed below are the institutional courses of instruction:

(1) 14J FAAD C3I Crew Member AIT. USAADASCH, 6th ADA Brigade conducts 14J AIT. The training is a 19 week POI that trains an initial entry soldier in MOS 14J10 in the following instruction:

- Sentinel radar operations and maintenance
- Communications (JTIDS/EPLRS/SINCGARS/MSE/TADILs)
- Computers (UNIX/MS-DOS)
- FAAD C4I subsystems operations and maintenance
- Engagement Operations (EO)
- Force Operations (FO)
- Air and Missile Defense Planning Control System (AMDPCS) operations and integration
- Patriot Tactical Command System (TCS)
- Situational Training Exercise (STX)

(2) 14B SHORAD Officer Basic Course (OBC) and Captains Career Course (CCC). USAADASCH, 6th Brigade conducts SHORAD officers' (14B) training. Both the officer's Basic and Advanced courses include FAAD C3I capabilities instruction. The OBC is a 9 week, 4 days course that includes instruction on the operational capabilities of the FAAD C3I system. The CCC incorporates FAAD C3I tactics into the POI small group instruction processes.

(3) 14B-RC SHORAD Officer Reclassification-RC. USAADASCH, 6th Brigade conducts SHORAD officers' training. The SHORAD-RC course is designed for reserve component officers with an actual

anticipated assignment to a RC SHORAD Air Defense unit. The POI teaches characteristics, capabilities, limitations, and tactics of FAAD C3I systems, with emphasis on the platoon, battery and battalion operations.

(4) 140A ADA Warrant Officer and Warrant Officer Advanced Courses.

(5) Courses required to support 14J AIT

(a) 31U10 Signal Support Systems Specialist. The US Army Signal School conducts 31U AIT. The training is a 17 week POI that trains an initial entry soldier in MOS 31U10 in the following instruction:

- Army Maintenance Management System (TAMMS)
- Test Measurement and Diagnostic Equipment (TMDE)
- Unit Level Maintenance (ULM)
- Army Tactical Command and Control System (ATCCS)
- Force XXI Battle Command Brigade and Below (FBCB2)
- Communications (FHMUX, SINCGARS, CNR, MSE, MSRT, LANS, RETRANS)
- Standard Integrated Command Post (SICPS)
- Computers (COTS, System Management)

(b) 35E10 Radio/Communications Security Repairer. The US Army Signal School conducts 35E AIT. The training is a 25 week POI that trains an initial entry soldier in MOS 35E10 in the following instruction:

- Direct support, General support and depot level maintenance on tactical and semi-fixed communications equipment and systems
- COMSEC equipment

(c) 35M10 Radar Repairer. The US Army Field Artillery School conducts 35M AIT. The training is an 11 week 2 day POI that trains an initial entry soldier in MOS 35M10 in the following instruction:

- Basic electronics
- Digital technology
- Advanced electronic theory

(d) 35J10 Computer/Automation Systems Repairer. The US Army Signal School conducts 35J AIT. The training is a 15 week POI that trains an initial entry soldier in MOS 35J10 in the following instruction:

- Basic electronics
- Computers (COTS, repair, peripherals)

- Tactical facsimile (AN/UXC-7)
- Tactical Communication Terminal (AN/UGC-144)
- Lightweight Computer Unit (LCU) w/peripherals

See Annex B for Individual Training Strategy Matrix.

**c. Unit Sustainment Training Strategy (Warfighter)**

The unit commander and unit trainers accomplish the sustainment of individual and collective tasks through a unit training strategy that is tailored to the unit's mission-essential task list (METL) and the combined arms training strategy (CATS). The training materials include the NET training support packages and TADSS. The battalion S-3 monitors the training; maintains a training log; certifies when each lesson plan in the TSP has been taught; and posts the results of each exam. When the soldier completes training, the S-3 will issue a certificate of training and annotate the soldier's training log, per AR 25-400. Collective training events (live and virtual), combat training center exercises, crew-level to battalion-level training all combine to support the standards defined in the FAAD C3I Army Training Evaluation Program (ARTEP), Mission Training Plan (MTP) and Crew Drills. Individual training to support skill level 2 tasks is designed against the standards identified in the FAAD C3I Soldier Training Publication (STP).

The FAAD C3I CATS supports crew drill qualification and maneuver exercises with all FAAD C3I nodes. CATS are based upon a building block approach in which soldiers are trained in basic skills before being integrated into crews. Crews then train progressively from basic tasks through integration as sensor platoon, battery, battalion, or divisional elements performing wartime-missions. Unit commanders have the latitude to integrate the CATS into the training of command and control; and maneuver, survival, and sustainment skills, as they apply to their respective METL.

Gunnery tables provide qualification standards and training strategies for the sensor platoon subsystem. These tables focus on preparing soldiers to qualify and perform as crew members. Basic gunnery skills include Tables I through III. Performance of these tables is mandatory for all crew members and will be completed within 90 days of arrival at the unit. Standards outlined in the MTPs/STPs are the minimum acceptable levels of performance.

In order to obtain maximum collective training benefit, unit commanders should find ways to maximize FAAD C3I participation at CTCs and with other units in both live and virtual exercises on their respective installations, especially Signal Units.

See Annex C for CATS Units training strategy Matrix.

**7. TRAINING PRODUCTS**

TADSS, embedded trainers, and TSPs for the institution and the field must be fielded with the system. Those that cannot must be fielded as soon as technically and economically feasible. The lack of training due to decreased availability or TADSS development and distribution will adversely impact the combat readiness of all FAAD C3I units and disqualify those units from participating in combat training center exercises. Overarching resource documents may adversely impact the strategy in terms of proficiency, ultimately impacting crew qualifications, deployment readiness, and individual soldier skill level advancement.

A complete training subsystem, fielded with the FAAD C3I system, is vital to the overall success of the system. The subsystem should contain a full complement of training support products required to support training of the system in the institution, during NET, and in support of the unit training strategy/sustainment training. Wherever possible, components will employ embedded training capabilities, be multimedia based, and/or use distance learning technologies. The subsystem will contain (as a minimum) required doctrinal

manuals, system technical manuals (preferably Interactive Electronic Technical Manuals (IETM), TADSS, an IMI Training Support Package (TSP), and courses (complete with a digitized POI, lesson plans, student and instructor guides, and a course management plan).

The following further details the ADA training products required to support all aspects of AMT (NET, DTT, and ST). For an inclusive list of Technical Manuals (TMs) and Technical Bulletins (TBs) produced by the materiel developer refer to the reference section of the 14J STP.

**a. Publications**

FM 44-47 TTP for a SHORAD Battery FBCB2 (Final Draft, Dec 99)
FM 44-48, TTP for a SHORAD Sensor Platoon, (Final Draft, Dec 99)
FM 44-49, TTP for a Digitized SHORAD Battalion, (Final Draft, May 99)
ARTEP 44-116-16-Drill, FAAD C3I Subsystem, Light, DA Print Oct 97 (under revision to support JCF AWE Sep 00, Initial Draft Feb 00)
ARTEP 44-116-16-MTP, FAAD C3I Subsystem, Light, DA Print Sep 94 (under revision to support JCF AWE Sep 00, Initial Draft Feb 00)
ARTEP 44-176-15-Drill, FAAD C3I Subsystem, Heavy, (Final Draft, Dec 99)
ARTEP 44-176-15-MTP, FAAD C3I Sentinel Sensor Platoon, (Final Draft, Dec 99)
STP 44-14J1-SM, C4I TOC Enhanced Operator/Maintainer, DA Print Jan 96 (under revision to support Force XXI, Final Draft, Dec 99)
STP 44-14J24-SM-TG, C4I TOC Enhanced Operator/Maintainer, DA Print Jan 96 (under revision to support Force XXI, Final Draft, Dec 99)
Air and Missile Defense Work Station (AMDWS) Digital Operations Guide (DOG) V1.OD (Published Mar 99)

Publications will be available in digitized formats and be capable of archiving in the Reimer Digital Library (RDL).

**b. TADSS**

The proponent institution and field units require a variety of TADSS to support training. For a detailed matrix of those devices required for gunnery (crew) training refer to Appendix A, Section II, ARTEP 44-176-15-MTP. The TADSS matrix in Appendix I of this STRAP further defines TADSS required for support. The following TADSS and are required to support FAAD C3I operator and/or maintainer and institutional and/or unit training:

(1) C3I Embedded Troop Proficiency Trainer (TPT)

(2) Sentinel Embedded Troop Proficiency Trainer (TPT)

(3) FAAD C2I Institutional Conduct of Operations Trainer (ICOT).

(4) Sentinel Maintenance Trainer (SMT)

(5) Sentinel Training System (STS)

(6) JTIDS Radio Terminal Set Operator & Maintenance Procedures Simulator (JROMPS)

(7) FAAD C2I Dismounted Tactical Trainer (DTT)

(8) FAAD C2I Communications Part Task Trainer (COMM PTT)

(9) Common Hardware/Software (CHS) Lab

**NOTE:** Any TADSS associated with the **AMDPCS and TCS (PAC-3, Conf-3)** will be addressed in those respective STRAPS.

**c. Multimedia Products**

An Acquisition Requirements Package (ARP) for the 043-14J10 course has been forwarded to ATSC. This package contracts for the development of 310 hours of IMI (CD-ROM) and 308 hours of printed material deliverable by Sep 00. IMI will consist of internet-based training modules/lessons or learning activities applicable for training in a distance learning classroom or Classroom XXI training environment. IMI includes comprehensive diagnostic pretests, feedback results, remediation, and post tests. The PC-based software will emulate the UNIX software used within the tactical equipment and will simulate TOC inputs to the AMDPCS and AMDWS. The training software will develop the soldier's skill in evaluating Tactical Electronic Intelligence Data and performing force operations, engagement operations, and operations and intelligence duties.

**d. System Hardware/Software**

Tactical C3I systems are required to support institutional training at USAADASCH. The following is a list of required tactical equipment and dismounted equipment/labs.

- AN/TSQ-182 ABMOC/A2C2 (2 required; 2 on-hand)
- AN/TSQ 183A Sensor Node (4 required; 3 on-hand) **Note:** New requirement for 4 per request for change to the TDA (WO 7125-0003).
- AN/TSQ-184 Battery CP (7 required; 5 on-hand) **Note:** New requirement for 7 per request for change to the TDA (WO 6225-0023).
- Sentinel Radar (6 required; 6 on-hand)
- Dismounted Tactical Trainer (DTT) (1 required; 1 on-hand)
- Communications Part Task Trainer (COMM PT) (1 required; 1 on-hand) **Note:** This trainer is partially fielded. Requirement is for 36 EPLRS and there are 3 on-hand.
- Common Hardware/Software (CHS) Lab (2 required; 2 on-hand) **Note:** One lab is for CHS I and the other is for CHS II. The CHS II equipment upgrade is 30% complete.

**NOTE:** Any tactical equipment or equipment shortages associated with the **AMDPCS and the TCS (PAC-3, Conf-3)** will be addressed in those respective STRAPS.

## 8. TRAINING SUPPORT

**a. Distance Learning.** The purpose of the Total Army Distance Learning Program is to establish the specific goals, objectives, requirements, and responsibilities for implementing the TADLP across the force. The plan identifies multimedia technologies and communications infrastructure required for Army-wide access to training sources and timelines for phased implementation that will make the program a reality. The first step in the distance learning concept is the Total Army Training System (TATS) courseware development using Distance Learning methods and IMI applications. The 14J course is in the process of TATS conversion and distance learning development will ensure that the course provides support for Army Training XXI and Force XXI programs and initiatives. USAADASCH has developed an operations plan in support of Army Distance Learning and received 3 distance learning classrooms in FY 99 and are scheduled to receive 4 additional classrooms, 2 in FY 05, 1 in FY 06 and the final classroom in FY 07.

**b. Classroom XXI.** The goal of Classroom XXI is to create a state-of-the-art training environment that supports individual soldiers training for the 21st century throughout the Total Army. This does not eliminate the need for institutional training but it changes the focus on how and where we deliver training to our soldiers. The classroom optimizes individual and professional development training and is unrestricted by time, walls, or distance locations, based on information age technology. The TRADOC Classroom XXI master plan identifies five levels of classrooms based on training capability and its associated technology. TRADOC has funded one Level III Classroom XXI and a Digital Training Access Center (DTAC) at Ft. Bliss. Both were completed on 30 October 1997. Future funding and fielding includes 9 supplementary Level III Classroom XXIs with a DTAC upgrade during FY 00 through 09.

**c. Facilities.** Existing facilities, ranges and real property satisfy FAAD C3I system requirements.

**d. Ammunition.** The FAAD C3I system requires no ammunition.

**e. Other.** It is vitally important that FAAD C3I be utilized in exercises at CTCs based on a unit's rotational schedule. Every effort should be made to exercise all FAAD C3I system capabilities in live, constructive, and simulated environments. FAAD C3I must be fully integrated into CTC instrumentation.

## 9. POST-FIELDING TRAINING EFFECTIVENESS ANALYSIS (PFTEA)

When resources permit and USAADASCH has the manpower to support the PFTEA processes, a PFTEA will be prepared. The process will include coordinating the evaluations of POIs and lesson plans; personnel selection criteria; published exercises (e.g. Situation Training Exercises (STX); NET; TADSS; and any TSP or other training products and material. The New Equipment Training Team (NETT) analysis of demonstrated skills by unit personnel provides initial data for these evaluations. The data collected by the NETT and the results of the analysis will be staffed throughout the institution. The training departments will use this information to refine and update training programs and requirements. A resource request for a PFTEA study for FAAD C3I was submitted to TRADOC for FY 2000 (priority 4).

**ANNEX A**

**TARGET AUDIENCE**

| FUNCTIONAL AND PROFESSIONAL COURSES | USAADASCH Ft Bliss, TX | USAFASCH Ft Sill, OK | USASIGSCH Ft Gordon, GA | USAOMMCS Redstone Arsenal, AL |
|---|---|---|---|---|
| 14B – OBC | X | | | |
| C22 – CCC | X | | | |
| 14J – FAAD C3I Enhanced Operator/ Maintainer | X | | | |
| 140A – ADA TOC Technician | X | | | |
| 31U – Unit Level Commo Repairer | | | X | |
| 35M – Sentinel Radar Repairer | | X | | |
| 35E – Radio/COMSEC Repairer | | | | X |
| 35J – Computer/Automation Systems Repairer | | | | X |

| **LEGEND** | |
|---|---|
| OBC | Officer Basic Course |
| CCC | Captains Career Course |
| USAADASCH | United States Army Air Defense Artillery School |
| USAFASCH | United States Army Field Artillery School |
| USASIGSCH | United States Army Signal School |
| USAOMMCS | United States Army Ordnance Missile and Munitions Center and School |

**ANNEX B**

**CATS INDIVIDUAL TRAINING STRATEGY (WARRIOR)**

| **Training Strategy for Advanced Individual Training (AIT): 14J** |
|---|
| |
| Location: Fort Bliss, Texas |
| Lesson Plans: 3QFY97 (Under revision) |
| Course Start: 1 Apr 97 (19 weeks) |
| Classes per year: FY 99/21; FY 00/21; FY 01/21 |
| Student load per Fiscal Year (FY): FY 99/236; FY 00/238; FY 01/257 |
| |
| **Analysis Requirements (14J)** |
| |
| Training Requirements Analysis System (TRAS) Documents |
| Individual Training Plan: TRADOC Approved Jul 97 (Under revision) |
| Course Administrative Document: TRADOC Approved May 96 |
| Program of Instruction: TRADOC Approved 11Oct 96 (Under revision) |
| Training Support Required: Refer to Paragraphs 7 and 8 and Annex H |
| |
| **Integrated Training Strategy for SHORAD Officer Courses 14B-OBC; C22-CCC** |
| |
| Location: Fort Bliss, Texas |
| Lesson Plans: OBC – 2QFY99;CCC - 4QFY98 (Under revision) |
| Course Start: OBC – 2QFY99; CCC - 4QFY98 (Under revision) |
| Classes per year: OBC – FY 99/3; FY 00/3; FY 01/3 |
| Student load per Fiscal Year (FY): FY 99/158; FY 00/158; FY 01/163 |
| Classes per year: CCC – FY 99/4; FY 00/4; FY 01/4 |
| Student load per Fiscal Year (FY): FY 99/143; FY 00/160; FY 01/134 |
| |
| **Analysis Requirements (OBC/CCC)** |
| |
| Training Requirements Analysis System (TRAS) Documents |
| Individual Training Plan: OBC/CCC TRADOC Approved Oct 90 |
| Course Administrative Document: OBC: NA |
| CCC: TRADOC Approved 2 Dec 97 |
| Program of Instruction: OBC: TRADOC Endorsed 31 Mar 97 (Under revision) |
| CCC: Under TATS Conversion. Estimated Completion: 4QFY99 |
| Training Support Required: Refer to Paragraphs 7 and 8 and Annex H |

**ANNEX B**

**INSTITUTIONAL TRAINING (WARRIOR)**

| **Integrated Training Strategy for C4I and Warrant Officer Course 140A-WOC** |
|---|
| |
| Location: Fort Bliss, Texas |
| Lesson Plans: 3QFY97 |
| Course Start: 1 Apr 97 |
| Classes per year: FY 99/2; FY 00/1; FY 01/1 |
| Student load per Fiscal Year (FY): FY 99/7; FY 00/7; FY 01/7 |
| |
| **Analysis Requirements (140A)** |
| |
| Training Requirements Analysis System (TRAS) Documents |
| Individual Training Plan: TRADOC Approved Jul 96 |
| Course Administrative Document: TRADOC Approved Mar 97 |
| Program of Instruction: TRADOC Endorsed 12 May 97 |
| Training Support Required: Refer to Paragraphs 7 and 8 and Annex H |
| |

**ANNEX B**

**INSTITUTIONAL TRAINING (WARRIOR)**

| **Training Strategy for Advanced Individual Training (AIT): 31U** |
|---|
| |
| Location: US Army Signal School, Ft. Gordon, GA |
| Lesson Plans: Currently under revision. Estimated Completion: 4QFY99 |
| Course Start: 1Oct 95 |
| Classes per year: FY 99/73; FY 00/71; FY 01/71 |
| Student load per Fiscal Year (FY): FY 99/2167; FY 00/2113; FY 01/2252 |
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| **Analysis Requirements** |
| |
| Training Requirements Analysis System (TRAS) Documents |
| Individual Training Plan: 7 Mar 95 |
| Course Administrative Document: 21 Sep 92 |
| Program of Instruction: 24 Jul 95 |
| Training Support Required: Refer to Paragraphs 7 and 8 and Annex I |
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**ANNEX B**

**INSTITUTIONAL TRAINING (WARRIOR)**

| **Training Strategy for Advanced Individual Training (AIT): 35M** |
|---|
| |
| Location: U.S. Army Field Artillery School, Ft. Sill, OK |
| Lesson Plans: Under revision |
| Course Start: 12 Nov 97 |
| Classes per Fiscal Year: FY 99/17; FY 00/12; FY 01/14 |
| Student load per Fiscal Year: FY 99/109; FY 00/95; FY 01/112 |
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| **Analysis Requirements** |
| |
| Training Requirements Analysis System (TRAS) Documents |
| Individual Training Plan: 26 MAY 93 |
| Course Administrative Document: 23 OCT 97 |
| Program of Instruction: 9 MAR 98 |
| Training Support Required: Refer to Paragraphs 7 and 8 and Annex I |
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**ANNEX B**

**INSTITUTIONAL TRAINING (WARRIOR)**

| **Training Strategy for Advanced Individual Training (AIT): 35E** |
|---|
| |
| Location: U.S. Army Signal School, Ft. Gordon, GA (physical location only; course is taught by USAOMMCS personnel) |
| Lesson Plans: 1 Sep 95 (Under revision to incorporate changes from critical task list dated June 98) |
| Course Start: 1 Oct 94 |
| Classes per Fiscal Year: FY 99/33; FY 00/31; FY 01/27 |
| Student load per Fiscal Year: FY 99/573; FY 00/587; FY 01/530 |
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| **Analysis Requirements** |
| |
| Training Requirements Analysis System (TRAS) Documents |
| Individual Training Plan: Approved 1994 |
| Course Administrative Document: Submitted to TRADOC May 99; awaiting approval |
| Program of Instruction: Approved 1 Sep 95 (Under revision) |
| Training Support Required: Refer to Paragraphs 7 and 8 and Annex I |
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**ANNEX B**

**INSTITUTIONAL TRAINING (WARRIOR)**

| **Training Strategy for Advanced Individual Training (AIT): 35J** |
|---|
| |
| Location: U.S. Army Signal School, Ft. Gordon, GA (physical location only; course is taught by USAOMMCS personnel) |
| Lesson Plans: 1 Oct 98 |
| Course Start: 1 Oct 98 |
| Classes per Fiscal Year: FY 99/16; FY 00/13; FY 01/9 |
| Student load per Fiscal Year: FY 99/222; FY 00/196; FY 01/138 |
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| **Analysis Requirements** |
| |
| Training Requirements Analysis System (TRAS) Documents |
| Individual Training Plan: Approved Sep 92/Draft Training Strategy completed FY98 |
| Course Administrative Document: Approved Dec 98 |
| Program of Instruction: Approved Jun 98 |
| Training Support Required: Refer to Paragraphs 7 and 8 and Annex I |
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**ANNEX C**

**CATS UNIT/SUSTAINMENT TRAINING STRATEGY (WARFIGHTER)**

**1. Individual Training:**

**a. Strategy:** Individual skills will be sustained through daily operational training, crew drills, situational training exercises, field training exercises, and use of the ARTEP Mission Training Plan. Commanders ensure individual proficiency per applicable soldier's manuals; e.g. to maintain individual skill proficiency on the FAAD C3I System, soldiers designated to operate/maintain it will train as follows:

| MOS | Training Event | Frequency |
|---|---|---|
| 14J10 | MOS Training | Weekly |
| 14J20 | MOS Training | Weekly |
| 14J30 | MOS Training | Weekly |
| 14J40 | MOS Training | Weekly |

**b. Products: Required to sustain individual skills.**

| Product | Required Date | Resource Requirement | Responsible Agency |
|---|---|---|---|
| 14J STP | 1QFY00 | In-House | DOTTD, USAADASCH |
| 31U STP | 12 Aug 93 | In-House | USASIGSCH |
| 35E STP | 3 Oct 95 | In-House | USAOMMCS |
| 35J STP | 12 Aug 93 | In-House | USAOMMCS |
| 35M STP | | In-House | USAFASCH |
| Operator's TSP | 4QFY00 | Contract | Contract not Awarded |
| Sensor Platoon MTP | 1QFY00 | In-House | DOTTD, USAADASCH |
| FAAD C3I Crew Drill | 1QFY00 | In-House | DOTTD, USAADASCH |
| FAAD C3I CATS | 1QFY00 | Contract | TRW |
| Operator's TMs (Software Version 5) | May 99 | System Contract | Material Developer TRADOC |

**2. Collective Training:**

**a. Strategy:** The collective skills to employ and maintain the system are learned and sustained through repetitious application of crew drills, STX, command post exercises, and training with the close combat tactical trainer, gunnery, and tactical simulations. ADA doctrine and tactics will be incorporated. Training will be conducted in accordance with the applicable MTP. To sustain collective proficiency, the following are recommended training echelons, events, and frequencies:

| Echelon | Event | Frequency |
|---|---|---|
| Battalion | Maneuver | |
| | MAPEX | Semi-Annually |
| | TEWT | 3x Annually |
| | CELL/STF | Weekly |
| | TOC EX | 3x Annually |
| | STAFF EX | 3x Annually |
| | ADX CPX | 3x Annually |
| | STX | 3x Annually |
| | DEP EX | Annually |
| | FTX | 3x Annually |
| Battery | Maneuver | |
| | ADX CPX | Annually |
| | STX | Annually |
| | DEP EX | Annually |
| | FTX | Annually |
| | EXEVAL CTC | Semi-Annually |
| Platoon | Gunnery | |
| | Table VI (TPT, Tactical Equipment & MILES) | Semi-Annually |
| | Table VII (TPT, Tactical Equipment & MILES) | Semi-Annually |

**ANNEX C**

**UNIT/SUSTAINMENT TRAINING (WARFIGHTER)**

| | | |
|---|---|---|
| Section | Gunnery | |
| | Table IV (TPT, Tactical Equipment & MILES) | Quarterly |
| | Table V (TPT and Tactical Equipment) | Quarterly |
| Crew | Maneuver | |
| | Drill | Bi-Weekly |
| | Gunnery | |
| | Table I | Monthly |
| | Table II (Tactical Equipment) | Monthly |
| | Table III (TPT &Tactical Equipment) | Monthly |

**b. Products:** Required to support collective training.

| Product | Required Date | Resource Documents | Responsible Agency |
|---|---|---|---|
| FAAD C3I Crew Drills | 1QFY00 | In-House | DOTTD, USAADASCH |
| Gunnery Tables | 1QFY00 | In-House | DOTTD, USAADASCH |
| Sensor Platoon MTP | 1QFY00 | In-House | DOTTD, USAADASCH |
| FAAD C3I CATS | 1QFY00 | Contract | TRW |
| STX | N/A | METL | Unit |
| TSOP | N/A | METL | Unit |
| FM | 1QFY00 | In-House/Contract | DOTTD,USAADASCH/ RAM |

## ANNEX D

## TRAINING DEVELOPMENT MILESTONE SCHEDULE

**NOTE:** Milestones for initial FAAD C3I fielding were completed prior to FY98. Dates listed indicate milestone revisions based on **Force XXI modifications.**

### Individual Training Plan 14J FAAD C3I Crew Member

| **Milestone:** | **Date** |
|---|---|
| 1. Initial Individual Training Plan (ITP) submitted. | NA |
| 2. Annotated task list submitted. | Updated Jun 99 |
| 3. Course Administrative Data (CAD) submitted. | Approved May 96 |
| 4. Training Program Worksheet (TPW) submitted. | NA |
| 5. ITP submitted. | Approved Jul 97 |
| 6. POI submitted. | Approved 11 Oct 96 |
| 7. Resident course start date for 14J 19-week POI | 1 Apr 97 |

### Army Correspondence Course Program

| **Milestone:** | **Date** |
|---|---|
| 1. Requirement identified and submitted for approval. | N/A |
| 2. Requirement approved by HQ TRADOC. | N/A |
| 3. Development initiated. | N/A |
| 4. Advance breakdown sheet submitted. | N/A |
| 5. Camera-ready mechanicals submitted. | N/A |
| 6. Subcourse material ready for distribution. | N/A |

### Army-wide Doctrine and Training Literature Program (ADTLP)

| **Milestone:** | **Date** |
|---|---|
| 1. Requirements identified for Force XXI | Feb 98 |
| 2. Draft ADTLP changes validated for Force XXI | Initial Draft Aug-Oct 98; Coordinating Draft Feb-Mar 99 |
| 3. Field Manual (FM) outlines approved. | May 98 |
| 4. FM coordinating draft completed for Force XXI | Dec 99 |
| 5. Print request initiated. | TBD |
| 6. Approved camera-ready copies and comprehensive dummy submitted. | TBD |
| 7. Printing and distribution completed. | TBD |

### Soldiers' Training Publications

Note: Includes the soldiers' manual (SM), Army Training and Evaluation Program (ARTEP), and trainers' guide (TG).

| **Milestone:** | **Date** |
|---|---|
| 1. Analysis completed for Force XXI | Oct 98 |
| 2. Draft SM, ARTEP, and TG for Force XXI | Dec 99 |
| 3. ATSC staffing. | TBD |
| 4. Camera-ready mechanicals submitted. | TBD |
| 5. Distribution completed. | TBD |

## ANNEX D

## TRAINING DEVELOPMENT MILESTONE SCHEDULE

### Interactive Multimedia Instruction (IMI)/Distance Learning

| Milestone: | Date |
|---|---|
| 1. Requirements identified and submitted for approval. | Apr 99 |
| 2. Requirements approved by ATSC & TRADOC. | Date dependent upon funding |
| 3. Identify resources. | Apr 99 |
| 4. Develop and Validate courseware. | 3 Sep 99-11 Sep 00 |
| 5. Master materials to ATSC for replication and distribution. | 1QFY01 |
| 6. Replication and distribution completed. | 2QFY01 |

### Training Effectiveness Analysis (TEA)

| Milestone: | Date |
|---|---|
| 1. Interim TEA developed. | N/A |
| 2. TEA updated for Milestone Decision Review I. | N/A |
| 3. TEA updated for Milestone Decision Review II. | N/A |
| 4. TEA updated for Milestone Decision Review III. | N/A |
| 5. Post-Fielding TEA (PFTEA) planned. | FY 00 (if funded) |

### DA Audiovisual Production Program (DAAPP)

| Milestone: | Date |
|---|---|
| 1. High-risk tasks and jobs identified. | N/A |
| 2. Validated in storyboard. | N/A |
| 3. DAAPP requirements submitted to ATSC. | N/A |
| 4. Requirements approved by DA. | N/A |
| 5. Production initiated. | N/A |

### Training Aids, Devices, Simulations, and Simulators (TADSS)

| Milestone: | Date |
|---|---|
| 1. High risk, hard-to-train tasks identified. | N/A |
| 2. TADSS concept validated. | N/A |
| 3. Need for TADSS identified. | N/A |
| 4. TADSS incorporated into the STRAP. | N/A |
| 5. Analytical justification via TEA. | N/A |
| 6. Training Operation Requirements Document (ORD) developed, if required. | N/A |
| 7. TADSS effectiveness validated. | N/A |
| 8. TADSS incorporated into the ORD. | Changes to Annex E Approved 25 Mar 97 |
| 9. MOS-specific milestone/requirements for TADSS developed and incorporated in integrated training strategy (ITS). | N/A |

## ANNEX D

## TRAINING DEVELOPMENT MILESTONE SCHEDULE

### Facilities

| Milestone: | Date |
|---|---|
| 1. Range and Facility requirements identified. | N/A |
| 2. Construction requirements submitted to MACOM. | N/A |
| 3. Development of construction requirements completed. | N/A |
| 4. Requirements validated and updated. | N/A |
| 5. Supporting requirements identified and availability coordinated. | N/A |
| 6. Installation and other construction requirements submitted to MACOM. | N/A |
| 7. Refined construction requirements and range criteria to MACOM. | N/A |
| 8. Construction initiated. | N/A |

### Training Ammunition

| Milestone: | Date |
|---|---|
| 1. Ammunition identified. | N/A |
| 2. Tentative validation of ammunition requirements. | N/A |
| 3. Requirements included in the ORD. | N/A |
| 4. Ammunition item developed. | N/A |
| 5. Validation and test complete. | N/A |
| 6. Ammunition requirements in the ITP. | N/A |
| 7. Requirements provided to installation/MACOM manager. | N/A |
| 8. Requirements included in DA PAM 350-38 | N/A |
| 9. Production. | N/A |

**ANNEX E**

**Resource Summary**

**1. Facilities Requirements.** (MCA plus OMA and OPA tails).

| Description | Appn/Amount | FY Req'd | $ Source |
|---|---|---|---|
| No additional facilities required. | | | |
| | | | |

**2. Additional Equipment Requirements.** (OPA Funded)

| Equipment | BOIP Number | Number Required |
|---|---|---|
| EPLRS | TBD | 33 |
| | | |

**3. Additional OMA Funding Requirements.** (AMC/PM funding responsibility FY98-02;TRADOC funding responsibility FY03+.)

| Description | Appn/Amount | Freq | Req'd | $ Source |
|---|---|---|---|---|
| a. Training | | | | |
| b. Training Spt | | | | |
| c. BASOPS | | | | |
| d. Other (specify) | | | | |

**4. Additional Manpower Requirements.**

| Description | OFF | WO | ENL | CIV | TOTAL |
|---|---|---|---|---|---|
| a. Training | | | | | |
| b. Training Spt | | | | | |
| c. BASOPS | | | | | |
| d. Other (specify) | | | | | |

Note: No additional manpower needed.

## ANNEX F

## REFERENCES

**The following references pertain to the operational testing and subsequent fielding of the FAAD C3I Air Defense Weapon System:**

C2I Cost and Training Effectiveness Analysis (CTEA), 30 May 86

Operational and Organizational (O&O) Plan, 6 Jun 86

FAAD C3I Operational Requirements Document (ORD), DA Approved 12 Jun 95

Sentinel ORD, DA Approved 12 Jun 95

FAAD C3I System MANPRINT Management Plan (SMMP), 01 Sep 92

Sentinel (GBS) SMMP, 11 May 90

Basis of Issue Plan (BOIP), DA Approved 12 Feb 90

Quantitative and Qualitative Personnel Requirements Inventory (QQPRI), DA Approved 12 Feb 90

New Equipment Training Plan (NETP) Number:

**ANNEX G**

**COORDINATION**

| SYSTEM: FAAD C3I | | | DATE: |
|---|---|---|---|
| | COMMENTS | | |
| AGENCY | SUBMITTED | ACCEPTED | RATIONALE FOR NON-ACCOMMODATION |
| USAADASCH, Commander, 6th BDE | | | |
| USAADASCH, Commander, 2-6 ADA | Editorial Changes | | |
| USAADASCH, TRADOC System Manager – SHORAD | 0 | | |
| USAADASCH, Directorate of Combat Developments | 10 | 7 | (1) Requested we add a list of TSP products and equipment that is left with the unit after NET. We do not think this is necessary to include the material listing from the contractor.<br>(2) Requested we add a list of HTU publications. We only list the publications that ADA produces. For the TM listing we refer to the STP. |
| USAADASCH, Directorate of Resource Management | Editorial Changes | | |
| USAADASCH, OCADA | 0 | | |
| USAADASCH, Directorate of Tactics, Training, and Doctrine, TASS Division | | | |
| USAFASCH, Directorate of Training Management, | | | |
| USASIGSCH, Directorate of Training Management, | 0 | | |
| USAOMMCS Directorate of Training Instruction, Ordnance Electronic Maintenance Training Department (OEMTD) | 6 | 4 | (1) Requested that we delete training information for 35E and 35J because no additional resident training was needed for C3I. We want to provide information on all MOSs that directly support C3I.<br>(2) Recommended CASCOM update the 35E and 35J STP information. We got the information from Ms. Nichols and Ms. Peppers at CASCOM. |
| CASCOM, Training Directorate | | | |

## ANNEX H

## ACRONYMS

| Acronym | MEANING |
|---|---|
| A2C2 | Army Airspace Command and Control |
| ABMOC | Air Battle Management Operations Center |
| ACCP | Army Correspondence Course Program |
| AC/RC | Active and Reserve Components |
| ADA | Air Defense Artillery |
| ADCATT | Air Defense Combined Arms Tactical Training |
| ADTLP | Army-wide Doctrinal and Training Literature Program |
| ADX | Air Defense Exercise |
| AIT | Advanced Individual Training |
| AMC | United States Army Materiel Command |
| AMDPCS | Air and Missile Defense Planner Control System |
| AMDWS | Air and Missile Defense Workstation |
| AMIM | Army Modernization Information Memorandum |
| AMT | Army Modernization Training |
| ANCOC | Advanced Noncommissioned Officers Course |
| AR | Army Regulation |
| ARNG | Army National Guard |
| ARP | Acquisition Requirements Package |
| ARTEP | Army Training and Evaluation Program |
| ATLP | Army Training Literature Program |
| ATSC | Army Training Support Center |
| ATCCS | Army Tactical Command and Control |
| AWE | Army Warfighting Exercise |
| BCP | Battery Command Post |
| BD | Battle Drill |
| BFA | Battlefield Functional Area |
| BIT/BITE | Built-In-Test/Built-In-Test Equipment |
| BNCOC | Basic Noncommissioned Officers Course |
| BOIP | Basis of Issue Plan |
| C2 | Command and Control |
| C3I | Command, Control, Communications, and Intelligence |
| CAD | Course Administrative Data |
| CATS | Combined Arms Training Strategy |
| CBTDEV | Combat Development |
| CCC | Captains Career Course |
| CD | Combat Development |
| CD-ROM | Compact Disk-Read Only Memory |
| CECOM | Communication and Electronics Command |
| CELL | Small Group of S1, S2 Sections, etc. |
| CHS | Common Hardware Software |
| CNR | Combat Net Radio |
| COMM PTT | Communications Part Task Trainer |
| CONOPS | Continuous Operations |
| COTS | Common Off The Shelf |
| CP | Command Post |
| CPX | Command Post Exercise |
| CTC | Combat Training Center |
| CTEA | Cost and Training Effectiveness Analysis |

## ANNEX H

## ACRONYMS

| Acronym | MEANING |
|---|---|
| CTX | Combined Training Exercise |
| DA | Department of the Army |
| DAAPP | Department of the Army Audio Visual Production Program |
| DCD | Directorate of Combat Developments |
| DEPEX | Deployment Exercise |
| DL | Distance Learning |
| DTAC | Digital Training Access Center |
| DTT | Doctrine and Tactics Training or Dismounted Tactical Trainer |
| DOTTD | Directorate of Tactics, Training, and Doctrine |
| EO | Engagement Operations |
| EPLRS | Enhanced Position Location and Reporting System |
| ET | Embedded Training |
| EX | Exercise |
| EXEVAL | External Evaluation |
| FAAD | Forward Area Air Defense |
| FBCB2 | Force XXI Battle Command Brigade and Below |
| FEA | Front End Analysis |
| FEBA | Forward Edge of the Battle Area |
| FHMUX | Frequency Hopping Multi-Plexer |
| FM | Field Manual |
| FO | Force Operations |
| FTX | Field Training Exercise |
| FUE | First Unit Equipped |
| FY | Fiscal Year |
| HIMAD | High to Medium Altitude Air Defense |
| HMMWV | High-Mobility Multipurpose Wheeled Vehicle |
| HTU | Hand-held Terminal Unit |
| HQ | Headquarters |
| I&KP | Instructor and Key personnel |
| IAW | In Accordance With |
| ICOT | Institutional Conduct of Operations Trainer |
| ICW | Interactive Courseware |
| ID | Identification |
| IET | Initial Entry Training |
| IETM | Interactive Electronic Technical Manuals |
| IFF | Identification Friend or Foe |
| IHFR | Improved High Frequency Radio |
| IMI | Interactive Multimedia Instruction |
| ITP | Individual Training Plan |
| ITS | Integrated Training Strategy |
| JCF | Joint Combined Forces |
| JTIDS | Joint Tactical Information Distribution System |
| JROMPS | JTIDS Radio Terminal Set Operator and Maintenance Procedures Simulator |
| LAN | Local Area Network |
| LCU | Lightweight Computer Unit |
| LSDIS | Light and Special Divisions Interim Sensor |
| MACOM | Major Army Command |
| MANPRINT | Manpower and Personnel Integration |

## ANNEX H

## ACRONYMS

| Acronym | MEANING |
|---|---|
| MAPEX | Map Exercise |
| MATDEV | Materiel Developer |
| METL | Mission Essential Task List |
| MILES | Multiple Integrated Laser Engagement System |
| MOS | Military Occupational Specialty |
| MSE | Mobile Subscriber Equipment |
| MSRT | Mobile Subscriber Radio Terminal |
| MTP | Mission Training Plan |
| NET | New Equipment Training |
| NETP | New Equipment Training Plan |
| NETT | New Equipment Training Team |
| OAC | Officer Advanced Course |
| OBC | Officer Basic Course |
| OCADA | Office, Chief of Air Defense Artillery |
| OCONUS | Outside of Continental United States |
| OFS | Officer Foundation Standards |
| ORD | Operational Requirements Document |
| PFTEA | Post Field Training Effectiveness Analysis |
| PLGR | Precision Lightweight Global Positioning System |
| PLT | Platoon |
| PM | Program Manager |
| POI | Program of Instruction |
| QQPRI | Qualitative and Quantitative Personnel Requirements Information |
| RC | Reserve Component |
| RETRANS | Retransmission Station |
| RWS | Rigid Wall Shelter |
| SAT | Systems Approach to Training |
| SHORAD | Short Range Air Defense |
| SHTU | Simplified Handheld Terminal Unit |
| SICPS | Standard Integrated Command Post System |
| SINCGARS | Single-Channel Ground and Airborne Radio System |
| SM | Soldiers Manual |
| SME | Subject Matter Expert |
| SMMP | System MANPRINT Management Plan |
| SMT | Sentinel Maintenance Trainer |
| ST | Sustainment Training |
| STAFFEX | Staff Exercise |
| STF | Special Task Force |
| STS | Sentinel Training System |
| STP | Soldier Training Publication |
| STRAP | System Training Plan |
| STX | Situational Training Exercise |
| TADSS | Training Aids, Devices, Simulations and Simulators |
| TAMMS | The Army Maintenance Management System |
| TATS | Total Army Training System |
| TB | Technical Bulletin |
| TBD | To Be Determined |
| TCS | Tactical Command System |

## ANNEX H

## ACRONYMS

| Acronym | MEANING |
|---|---|
| TD | Training Development |
| TEA | Training Effectiveness Analysis |
| TEWT | Tactical Exercise Without Troops |
| TG | Trainers Guide |
| TM | Technical Manual |
| TMDE | Test Measurement and Diagnostic Equipment |
| TNG DEV | Training Developer |
| TOC | Tactical Operations Center |
| TPT | Troop Proficiency Trainer |
| TPW | Training Program Worksheet |
| TRADOC | Training and Doctrine Command |
| TRAS | Training Requirement Analysis System |
| TSM | TRADOC System Manager |
| TTCP | Training Test Certification Plan |
| TTP | Tactics, Techniques, and Procedures |
| TSP | Training Support Package |
| TTSP | Training Test Support Package |
| UIR | User Interface Requirement |
| ULM | Unit Level Maintenance |
| USAADASCH | United States Army Air Defense Artillery School |
| USAFASCH | United States Army Field Artillery School |
| USAOMMCS | United States Army Ordnance Missile and Munitions Center and School |
| USAR | United States Army Reserve |
| USASIGSCH | United States Army Signal School |
| WOAC | Warrant Officer Advanced Course |

## ANNEX I

## TADSS/ET REQUIREMENTS

### a. Purpose

The use of TADSS is a training strategy that reduces costs, and, in general, provides a safe training environment that reserves the tactical equipment for final evaluations or qualifications. The use of training devices permits training to be performed under realistic but simulated conditions while protecting the environment and complimenting the requirement to reduce ammunition costs. The limited availability of tactical equipment greatly impacts their use in training and qualification. Therefore, a heavy reliance is placed on the use of TADSS for both training and qualification. The institutional and unit philosophy to train ADA soldiers and leaders as "we fight" is accomplished through the extensive use of TADSS. Successfully achieving and maintaining ADA unit readiness to conduct force protection operations in the combined arms arena using sophisticated ADA tactical systems is a complicated enterprise that is directly tied to the technology that produces training support simulations and devices. State-of-the-art, requirements-based, reliable, deployable, and preferably embedded training devices are needed to ensure soldier proficiency of critical skills.

All the TADSS, Training, and Support materials, products, and equipment addressed in this STRAP are required to support the FAAD C3I force package fielding. The result is a complete training subsystem that supports the FAAD C3I system and meets the needs for all aspects of AMT (NET, DTT, and ST) at the institution, CTCs and units. Every attempt has been made to ensure that TADSS and other training products identified; 1) are user friendly/system compatible, 2) capture/replicate FAAD C3I components/characteristics, 3) are realistic and interactive, 4) take advantage of the latest technology, 5) are deployable/embedded, and 6) provide after-action reporting where applicable. To ensure realization of the TADSS strategy, TADSS and other training product development must be concurrent with the FAAD C3I system development.

### b. Overview

The following is an overview of TADSS requirements:

| **Training Aids, Devices, Simulations, and Simulators (TADSS) Requirements for the FAAD C3I System** | | | | |
|---|---|---|---|---|
| **Purpose/Function** | **NET** | **Institution** | **CTC** | **Unit** |
| **FAAD C2I Institutional Conduct of Operations Trainer (ICOT)** | | | | |
| • Crew Operations | | **X** | | |
| • Operator Functions | | **X** | | |
| • Initialization | | **X** | | |
| • Site Adaptation | | **X** | | |
| • Termination | | **X** | | |
| • Interactive Simulation | | **X** | | |
| **Sentinel Maintenance Trainer (SMT)** | | | | |
| • Remove and Replace Functions | | **X** | | |
| • Antenna Rotation | | **X** | | |
| • Interactive Maintenance and Repair | | **X** | | |

**ANNEX I**

| Training Aids, Devices, Simulations, and Simulators (TADSS) Requirements for the FAAD C3I System | | | | |
|---|---|---|---|---|
| **Purpose/Function** | **NET** | **Institution** | **CTC** | **Unit** |
| **Sentinel Training System (STS)** | | | | |
| • Energize System | | **X** | | |
| • Initialization | | **X** | | |
| • Loading IFF | | **X** | | |
| • March Order and Emplacement | | **X** | | |
| • Antenna Rotation | | **X** | | |
| • PMCS | | **X** | | |
| • BIT/BITE | | **X** | | |
| **JTIDS Radio Terminal Set Operator & Maintenance Procedures Simulator (JROMPS)** | | | | |
| • Initialization | | **X** | | |
| • Operator PMCS | | **X** | | |
| • Operator Functions | | **X** | | |
| • Maintenance Functions (for 140As) | | **X** | | |
| **FAAD C2I Dismounted Tactical Trainer (DTT)** | | | | |
| • Tactical Node Operations | | **X** | | |
| • Communications | | **X** | | |
| • C3I Hardware/Software Operations | | **X** | | |
| • Interactive Simulation | | **X** | | |
| **FAAD C2I Communications Part Task Trainer (COMM PTT)** | | | | |
| • Initialization | | **X** | | |
| • Operator PMCS | | **X** | | |
| • Operator Functions | | **X** | | |
| **Common Hardware/Software (CHS) Lab** | | | | |
| • CHS I/II Computer Operations | | **X** | | |
| • Operator PMCS | | **X** | | |
| • Operator Corrective Maintenance | | **X** | | |
| **TACTICAL EQUIPMENT WITH EMBEDDED TRAINING CAPABILITY** | | | | |
| **C3I Troop Proficiency Trainer (TPT)** | | | | |
| • Crew Operations | **X** | **X** | **X** | **X** |
| • Interactive Simulation | **X** | **X** | **X** | **X** |
| • Initialization of Nodes | **X** | **X** | **X** | **X** |
| • Termination of Nodes | **X** | **X** | **X** | **X** |
| • Engagement Operations | **X** | **X** | **X** | **X** |
| • Tactical Operations | **X** | **X** | **X** | **X** |
| • Operator PMCS/System Checks | **X** | **X** | **X** | **X** |
| • Evaluation Functions | **X** | **X** | **X** | **X** |
| **Sentinel TPT** | **X** | **X** | **X** | **X** |
| • Initialization | **X** | **X** | **X** | **X** |
| • BIT/BITE | **X** | **X** | **X** | **X** |
| • Operator Functions | **X** | **X** | **X** | **X** |
| • Interactive Simulation | **X** | **X** | **X** | **X** |

**c. TADSS Strategy**

Required TADSS are addressed in separate subparagraphs. These subparagraphs describe the device or embedded training with respect to the new/desired training capabilities and required characteristics, what it trains and how, where it will be used and by whom, how many are required, and why it is required over some other means.

**(1) Institutional Conduct of Operations Trainer (ICOT)**

The ICOT will be used to train FAADS engagement operations in a laboratory environment. It will consist of six student stations and an instructor station that will use menu driven software. Each station will consist of automatic data processing equipment connected by a local network. The ICOT will have the capability to be configured as any type of sheltered node. The device will display initialization, site adaptation, termination, and operational symbology and text messages. Computer generated battlefield scenarios must require the crews to perform all anticipated mental processes and physical reactions in a time frame consistent with the tactical environment. The ICOT will provide time-stamped track, operator and system software history reports for all critical actions, summary reports of all critical actions, and the option for internal recording and/or hardcopy output. It will also provide a playback capability, with the option of starting playback any time in the scenario, and a fast forward capability. The ICOT will be used initial entry students at the institution and will train the functions and operations listed in the table above.
**BOI: USAADASCH (1)**
**NOTE: Currently required but not funded**

**(2) Sentinel Maintenance Trainer (SMT)**

The SMT is a 3D "delta" trainer used to establish organic 35M MOS training. An existing FIREFINDER Intermediate Maintenance Trainer (FIMT) is utilized to train common Sentinel/FIREFINDER tasks. The SMT includes an instructor/operator station, four student stations, and a software support center. The student stations simulate the Sentinel's physical characteristics and fault symptoms and provide interactive maintenance and repair exercises using the Sentinel Interactive Electronic Technical Manual (IETM). Interactive video discs train students on remove-and-replace maintenance actions and antenna rotation. The instructor can monitor all training operations and communicate with the students during the training sessions. The SMT is used by initial entry students at the institution and it trains the functions and operations listed in the table above.
**BOI: USAFASCH (1)**
**NOTE: Currently fielded to school.**

**(3) Sentinel Training System (STS)**

The STS is an operator trainer that consists of a two-position instructor/operator station, six student stations, an external interface unit, and a software support center. The student stations simulate the radar characteristics, provide realistic, interactive tactical scenarios, and allow for simultaneous simulation of mutiple radars in adjacent sectors. Video presentations train students on emplacement and march order tasks and antenna rotation. The stations are Distributed Interactive Simulations (DIS)-compatible and interface with prime FAAD C2I hardware. The software support center provides the capability to maintain and develop exercises and scenarios. The instructor can monitor the students' switch actions and radar control

terminal (RCT) displays and can communicate with the students during the training sessions. The STS is used by initial entry students at the institution and it trains the functions and operations listed in the table above.
**BOI: USAADASCH (1)**
**NOTE: Currently fielded to school.**

**(4) JTIDS Radio Terminal Set Operator & Maintenance Procedures Simulator (JROMPS)**

The JROMPS is an operator and maintenance trainer that consists of one instructor station and seven student stations. The student stations simulate the JTIDS Radio Terminal Set (RTS) and train initialization and set-up procedures, sending/receiving J-Grams, BIT/BITE, and maintenance procedures. The JROMPS is capable of training JTIDS Terminal Controller (JTC) operations (JTC replaces the ICP). USAADASCH has received the software upgrade but as yet cannot access the JTC display without an LCU. The JROMPS is used by initial entry students at the institution and it trains the functions and operations listed in the table above.
**BOI: USAADASCH (1)**
**NOTE: Currently fielded to school.**

**(5) FAAD C2I Dismounted Tactical Trainer (DTT)**

The DTT is dismounted tactical equipment that is used to train FAADS C3I hardware and software operations in a laboratory environment. The training system consists of two ABMOC/A2C2 stations, three sensor C2 stations and one Btry CP station. Each station consists of automatic data processing equipment and communications equipment mounted in appropriate racked configurations that duplicate the tactical equipment layouts. The DTT is used by initial entry students at the institution and it trains the functions and operations listed in the table above.
**BOI: USAADASCH (1)**
**NOTE: Currently fielded to school.**

**(6) FAAD C2I Communications Part Task Trainer (COMM PTT)**

The COMM PTT is dismounted communications equipment that is used to train initialization, operations, and operator PMCS on SINCGARS, EPLRS, and MSE. The training system consists of communications equipment, mounting kits, power supplies, and ancillary equipment assembled in a laboratory environment. The COMM PTT is used by initial entry students at the institution and it trains the functions and operations listed in the table above.
**BOI: USAADASCH (1)**
**NOTE: Currently fielded but there is a shortage of EPLRS equipment.**

**(7) Common Hardware/Software (CHS) Lab**

The CHS Lab is dismounted computer equipment that is used to train CHS I and II computer operations, operator PMCS and operator corrective maintenance. The training system consists of computers, transportable computer units, disk drive units, archive devices, uninterruptable power supplies, and super high resolution displays. The CHS lab is used by initial entry students at the institution and it trains the functions and operations listed in the table above.
**BOI: USAADASCH (2)**
**NOTE: Currently CHS 1 is fielded to school not CHS II.**

**(8) C3I Embedded Troop Proficiency Trainer (TPT)**

The C3I TPT is an individual/crew trainer that is embedded into the actual equipment at all the sheltered nodes (A2C2, ABMOC, Sensor C2, and BCP). It is used to train C3I operators on command and control procedures at all command levels. The TPT has scenario generation capability that stimulates

operator procedural reactions in a real time environment and feedback capability that provides reports of track history, operator actions, and summaries for each student. The TPT is used by the institution to train initial entry students and by the unit to provide sustainment training for all C3I operators and crews. The TPT trains the functions and operations listed in the table above.
**BOI: 1 per node (USAADASCH included)**
**NOTE: Currently fielded to units with C3I.**

**(8) Sentinel Embedded Troop Proficiency Trainer (TPT)**

The Sentinel TPT is an individual/crew trainer that is embedded into the actual Sentinel equipment. It is used to train C3I operators on initialization procedures, operations to include establishing the data link and the evaluation of data/error messages, and BIT/BITE. The TPT has scenario generation capability that simulates total system operation, including the generation and passing of data tracks to the Sensor C2 node, and it displays incoming and outgoing information that stimulates operator procedural reactions. The TPT has feedback capability that provides reports of operator actions and summaries for each student. The TPT is used by the institution to train initial entry students and by the unit to provide sustainment training for all C3I operators and crews. The TPT trains the functions and operations listed in the table above.
**BOI: 1 per Sentinel Radar (USAADASCH included)**
**NOTE: Currently fielded to units with C3I.**

**d. Data Sources**

Tasks to be trained were derived from the training proponent's review of the MATDEV's Logistical Support Analysis (LSA) data and evaluation/validation of procedures on prototype systems. The types and number of TADSS required are a result of the training proponent's estimates based on the training analysis this system, MATDEV input, PFTEA on predecessor/similar systems, input from the US Army Simulation, Training, and Instrumentation Command (STRICOM) and the US Army Training Support Command (ATSC).

**e. Types of TADSS**

Many types of TADSS were considered for inclusion in the development of this strategy. Though individual devices for each type were not deemed necessary. Those selected above fully cover the training requirements. The types of TADSS considered are as follows:

Maneuver Trainers
Maintenance Trainers
Force-on-Force Trainers
Simulations
- Crew
- Functional
- Force-Level

Equipment/Component Simulators
Basic Skills Trainers
Part/Task Trainers
Embedded Trainers
- Operator
- Crew
- Functional
- Force-Level

**f. Embedded Training**

Embedded training was considered for FAAD C3I and efforts are ongoing to incorporate more embedded training as well as virtual training as the system matures. Embedded training for the FAAD C3I system consists of the TPTs as described in paragraph c. (8) and (9) above. The TPTs are fully embedded trainers for both operator and crew level tasks.